

Skylights and Daylighting



Overview

Which seems simpler: a solar panel on your roof that converts sun to electricity, then turning that electricity back into light with a light bulb ... or just using the sun to directly light the inside of your house? The second one, right? Not too many people are familiar with this: it's called "daylighting".

How to Use Skylights and Daylighting Efficiently

Today, one of the greenest ways to light any home or building is by using readily available daylight. Studies have shown that compared to electrical light, daylight can actually improve mood, reduce eye fatigue, provide true color rendition, and of course, reduce electrical consumption by reducing the need for electric lighting. Depending on where you live in the country, you have 1,500 to 3,000 hours of available daylight to take advantage of annually. So why waste electricity when the sun is shining?

Modern daylighting systems use optics to capture, transfer and deliver natural light effectively into the home – so you can retrofit your existing house to get daylight into rooms that need it. Advances in plastics can filter out the harmful ultra violet (UV) rays, so there is no fading of interior surfaces. And unlike older skylight systems, there's little risk of leakage. This is one of the most dramatic changes you can make in the interior of your home for minimal cost. And the best part is that the sun never sends you a bill at the end of the month.

If you're going to install skylights instead, the best way to incorporate them into the design of your home will depend on your region. If you live in a cold, northern climate, your best bet is to design your daylighting on the south side of your home. This will allow light to penetrate into your home throughout the winter months. Meanwhile, southern, sunny climate dwellers often choose to place skylights on the north side of their home because it will reduce the amount of heat gain through their windows, while still allowing plenty of light into their homes.

The efficiency of the windows and skylights you choose for your home is also important because without energy-efficient, properly sealed windows, your home could potentially lose and gain heat through and around the windows. This can be avoided with properly installed windows that have low U-factors and low solar heat gain coefficients (SHGC). A retrofit contractor will be able to help you figure out the best way to incorporate daylighting systems or skylights into your home for more natural lighting and to reduce energy usage from electricity.